

149. *A New Fossil Elephant Found in Shikoku, Japan.*

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(Comm. by H. YABE, M.I.A., Dec. 12, 1935.)

Since mediaeval times numerous specimens of fossil bones and teeth of elephants have been scooped up from the sea-bottom by fishermen's nets along the eastern part of the Inland Sea of Japan. However, very seldom are specimens discovered from strata exposed on the land surface along that part of the sea. The author is aware of only several cases, namely, a few found in situ at Akashi on the north shore of the sea, and at Sue village, Ayauta-gun, and Saida village, Mitoyo-gun, Kagawa-ken, both in the south of the sea. Mr. T. Sugiyama recently sent the author a specimen of a molar-tooth, obtained during road construction at Iruhi in Saida village, Shikoku. The stratum from which it was obtained consists of an alternation of loose shale and coarse-grained quartz-sandstone, and probably referable to either the old Pleistocene or to the youngest Pliocene.

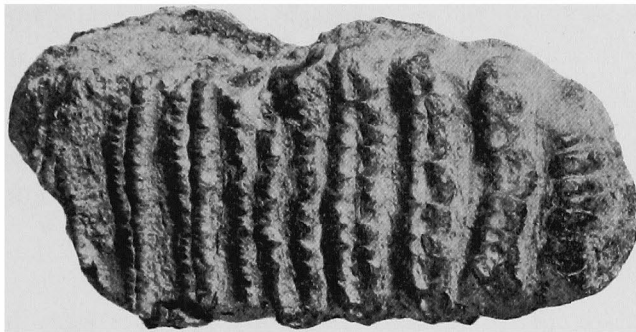
The present specimen obviously belongs to *Stegodontinae* in having a low crown, and in other points, but in shape, size, number of ridges, and especially in the nature of its enamel plication the present fossil is referable to no known species from Japan. It closely resembles *Stegodon airawana* Mart., and *Stegodon trigonocephalus* Mart. from Java; and is closest to the former. The following is the description of the specimen.

In the crown view, one side of the tooth is nearly straight and the other slightly convex. The grinding surface is oval and slightly convex, and its base is also slightly convex antero-posteriorly, indicating that it is an upper left molar. The anterior part of the crown is broken off and there preserved a posterior talon, seven ridges and a part of another; most probably the first ridge and the anterior talon are lost. The foremost, namely, second ridge has its anterior portion somewhat damaged and its outer portion broken off, and the next three ridges also lack their outermost portions. All the ridges are distinctly exposed, not covered by cement. The posterior talon was covered by cement and first showed itself by shaving off the cement; it is half as high as the adjoining ridge. The last ridge is just touched by wear and the other ridges were worn by grinding.

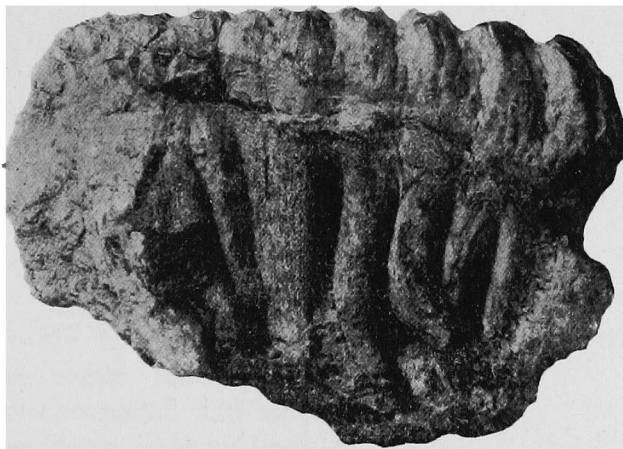
The present specimens, when complete, probably had nine ridges, an anterior and a posterior talons. A specimen of *Stegodon airawana* Martin (upper first molar) described by Maarel from Java which is also the same in size and bears a great resemblance to it, has in addition to only seven ridges, an anterior and a posterior talons,—a difference of specific significance.

The length of the crown of the present specimen is 120 mm +20

mm, the latter term being the estimated length of the lost part. The width of the grinding surface is 60 mm at the sixth ridge (67 mm at its base). The height of the crest is 34 mm at the worn eighth and 38 mm at the unworn ninth. The eighth and ninth ridge-crests decline forwards and are a little curved in side view, while the seventh but slightly declines forwards and is flat and not curved in the same view; all the other ridges stand upright. In well worn stage each ridge-crest is narrowly rectangular, not strongly constricted, and has its enamel finely plicated; in a less advanced stage of wear-



Parastegodon sugiyamai sp. nov.
Crown view, $\frac{1}{2}$ nat. size.



Parastegodon sugiyamai sp. nov.
Inner side view, $\frac{1}{2}$ nat. size.

ing, it shows a large number of constrictions. In these features the present specimen resembles in general *S. airawana*; however, the detailed enamel plication of its crown-ridges is characteristic when compared with the specimens of the latter illustrated by Soergel, Janensch, Stehlin, Maarel and Koenigswald. The unworn last or ninth ridge of ours has seven mammillae on crest and the eighth has seven constrictions. In the seventh ridge the dentine area is expanded and there are still five constrictions, while in the sixth and all the others forwards there is no constriction.

The enamel is finely and rather regularly plicated in the seventh and anterior ridges and never form rough irregular undulations exhibited on grinding surface by Maarel's Javan specimen, as his photograph shows, which is similar to our molar in the size of crown and grinding degree. The width of enamel measures 4 mm at the thickest portion in grinding surface.

In this specimen all its ridges except the posterior talon rise higher above the cement and the last or ninth is the heighest.

The property of the enamel plication of each ridge-crest of the author's specimen agrees with no described Japanese species and differs in several points from the Javan species. Moreover it presents several

features different from fossil elephants of other lands. The present specimen evidently needs a new name, and is named, *Parastegodon sugiyamai* in honor of the discoverer, Mr. Tsurukichi Sugiyama. The author is at present unable to affirm whether it represents the first or the second molar, but it evidently belongs to one of them.
